(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
7 August 2003 (07.08.2003)

PCT

(10) International Publication Number
WO 03/065369 A1

(51) International Patent Classification[7]: G11B 20/18

(21) International Application Number: PCT/IB02/05727

(22) International Filing Date:
23 December 2002 (23.12.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
02075350.5 29 January 2002 (29.01.2002) EP

(71) Applicant *(for all designated States except US)*: **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **LAMBERT, Nicolaas** [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **MESUT, Ozcan** [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **WIJNANDS, Rudi, J., M.** [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(74) Agent: **GROENENDAAL, Antonius, W., M.**; Internationaal Octrooibureau B.V., Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DATA STORAGE APPARATUS AND METHOD FOR HANDLING DATA ON A DATA STORAGE APPARATUS

	UA								SA			UA								SA		
Physical	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1st Format	0	1	2	3	4	5	6	7	S	S	S	8	9	10	11	12	13	14	15	S	S	S
Fact. Test 12																B						
Slipped	0	1	2	3	4	5	6	7	S	S	S	8	9	10	11		12	13	14	15	S	S
Grown 2			B																			
Remap	0	1		3	4	5	6	7	S	S	2	8	9	10	11		12	13	14	15	S	S
Free 1..4		F		F	F						F											
Bubble	0	1		2	3	5	6	7	S	S	4	8	9	10	11		12	13	14	15	S	S
Free 1..6		F		F	F	F	F				F											
Bubble	0	1		2	3	4	5	7	S	S	6	8	9	10	11		12	13	14	15	S	S
Free 4..9						F	F	F			F	F	F									
Bubble	0	1		2	3	4	5	6	7	S	S	8	9	10	11		12	13	14	15	S	S

(57) Abstract: Real-time audio video applications require guaranteed request service times from a hard disc drive. This requirement is not always fulfilled due to some unexpected delays in service times. Re-allocated sectors are one of the causes of such delays. A scheme for conversion of re-maps into slips in a hard disc drive is suggested. Converting re-allocated sectors into slipped or skipped sectors can prevent such a delay, since slipped sectors cause much less or even negligible performance loss than re-allocated sectors.

WO 03/065369 A1